



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/766,101	01/28/2004	Chul Woo Park	AMKOR-100A	2186
7663	7590	09/11/2007		
STETINA BRUNDA GARRED & BRUCKER			EXAMINER	
75 ENTERPRISE, SUITE 250			DINH, TUAN T	
ALISO VIEJO, CA 92656				
			ART UNIT	PAPER NUMBER
			2841	
			MAIL DATE	DELIVERY MODE
			09/11/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/766,101

Applicant(s)

PARK ET AL.

Examiner

Tuan T. Dinh

Art Unit

2841

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 14 June 2007.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-24 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-24 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2. Claims 1-2, 11-12, and 20 are rejected under 35 U.S.C. 102(e) as being anticipated by Osako et al. ('668 B2, as in the record).

As to claims 1, 11, and 20, Osako et al. discloses a memory card (1) and its method as shown in figures 1-2 comprising:

a substrate (5) having opposed top and bottom surfaces and a plurality of terminals (6-figure 1) disposed on the bottom surface thereof; at least one component (7) mounted to the top surface of the substrate (5) and electrically connected to the terminals thereof;

a first encapsulation part (3, see figure 1) formed on the bottom surface of the substrate; and

a second encapsulation part (8, see figure 3) formed on the top surface of the substrate (5) and encapsulating the component (7) mounted thereto, the second encapsulation part (8) being completely separated from the first encapsulation part (3)

Art Unit: 2841

by the substrate (5); the first and second encapsulation parts (3, 8) each being exposed in the memory card (noted: the element 8 is molded on the surface of the substrate 5).

As to claims 21-22, Osako et al. discloses a memory card (1) and its method as shown in figures 1-2 comprising: a substrate (5) having opposed top and bottom surfaces and a plurality of terminals (6-figure 1) disposed on the bottom surface thereof; at least one component (7) mounted to the top surface of the substrate (5) and electrically connected to the terminals thereof; a first encapsulation part (3) formed on the bottom surface of the substrate; and a second encapsulation part (8) formed on the top surface of the substrate (5) and encapsulating the component (7) mounted thereto, the second encapsulation part being completely separated from the first encapsulation part; the first and second encapsulation parts (3, 8) each being exposed in the memory card (noted: the elements 3 and 8 are encapsulated and exposed on the top and bottom surfaces in the memory card), and Osako et al. as shown in figure 2 having the first encapsulation part (3) is of a first thickness; and the second encapsulation part (8) is of a second thickness which exceeds the first thickness.

As to claims 2, 12, Osako et al. discloses the first encapsulation part (3) formed to include an opening where the terminals (6) of the substrate being exposed in the opening, see figure 1.

As to claims 6, 16, Osako et al. discloses the first and second encapsulation parts (3,8) are each fabricated from an epoxy mold compound, see column 5, lines 15-34.

Art Unit: 2841

As to claims 7, 17, Osako et al. as shown in figure 2 having the first encapsulation part (3) is of a first thickness; and the second encapsulation part (8) is of a second thickness which exceeds the first thickness.

As to claims 8-10, and 18-19, Osako et al. discloses a multiple components (column 4, lines 62-64), the components being selected one of a semiconductor package or die having wire bonded, a passive component; and combinations thereof.

As to claim 23, Osako et al. discloses the first and second encapsulation parts (3, 8) are configured to impart a prescribed form factor to the memory card.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 3 and 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Osako et al. in view of Hirai et al. (U.S. Patent 6,417,444).

As to claims 3 and 13, Osako discloses all of the limitations of the claimed invention, except for a pair of coupling notches formed in respective ones of the sides of the second encapsulation part in opposed relation to each other.

Hirai et al. shows a CF card as shown in figure 3a-3b comprising a bottom cover (1a) having a molding frame (2), the frame having a pair of coupling notches (2a, 2b, column 3) formed in respective ones of the sides of the molding frame (2).

Art Unit: 2841

It would have been obvious to one having ordinary skill in the art at the time the invention was made to have a pair of coupling notches formed in respective ones of the sides of a card as taught by Hirai et al. modified the second encapsulation part (2, 8) of Osako in order to provide a hook-like engagement.

As to claims 4 and 14, Osako discloses all of the limitations of the claimed invention except for a pair of guide slots formed in respective ones of peripheral edge segments.

Hirai et al. shows a CF card as shown in figure 3a-3b comprising a bottom cover (1a) having a molding frame (2), the frame having a pair of guide slots (7, column 3) formed in respective ones of the sides of the molding frame (2).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to have a pair of guide slots formed in respective ones of the sides of a card as taught by Hirai et al. modified the second encapsulation part (2, 8) of Osako in order to provide a hook-like engagement.

5. Claim 24 is rejected under 35 U.S.C. 103(a) as being unpatentable over Osako et al. in view of Kodai et al. (U.S. Patent 5,244,840).

Regarding claim 24, Osako et al. discloses all of the limitations of the claimed invention, except for the first encapsulation part being sized and cover entirety of the top surface of the substrate.

Kodai et al. shows an IC card as shown in figure 16B having a resin molding (14), the first part of the molding (14) having sized and cover the entirety of the top surface of the card.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to have a teaching of Kodai et al. modified the first encapsulation part (3) of Osako in order to protect the card from external impact.

6. Claims 5 and 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Osako et al. in view of Iwasaki (U.S. Patent 6,145,023).

Regarding claims 5 and 15, Osako et al. does disclose all of the limitation of the claimed invention, except for the second encapsulation part edge segment of the second includes a recess formed therein adjacent a peripheral encapsulation part disposed furthest from the terminals.

Iwasaki shows a memory module as shown in figures 1A-1B comprising a support portion (12) having a recess (14).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to have a teaching of Iwasaki modified the second encapsulation part (2, 8) of Osako in order to provide a handle part for insertion and removal of the card.

Response to Arguments

7. Applicant's arguments filed 06/14/07 have been fully considered but they are not persuasive.

Applicant argues:

Osako does not disclose "the first and second encapsulated being completely separated and exposed in the memory card.

Examiner disagrees because, as shown in figures 1-3, the first sealing portion (3) molded on the bottom surface (see figure 1) and the second sealing portion (8) molded on the top surface (see figure 3) and both they are being completely separated each other and also, they (the first and second sealing portion (3 and 8) being exposed in the memory card.

8. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.

Art Unit: 2841

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tuan T. Dinh whose telephone number is 571-272-1929. The examiner can normally be reached on M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Reichard Dean can be reached on 571-272-1984. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Tuan Dinh
August 31, 2007.



TUAN T. DINH
PRIMARY EXAMINER